



USSN 10/798,740
Attorney Docket No. 2003-0083-01

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(Signature of Person mailing papers or fees)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

William N. Partlo, et al.

Serial No.: 10/798,740

Filing Date: March 10, 2004

Title: COLLECTOR FOR EUV LIGHT
SOURCE

Examiner: Unassigned

Group Art Unit: Unassigned

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In accordance with 37 C.F.R. § 1.97 and § 1.98, applicants submit for consideration in the above-identified application the attached Form PTO-1449. The Information Disclosure Statement submitted herewith is being filed before the mailing date of the first Office Action on the merits. Copies of the cited references are not provided pursuant to the USPTO waiving the requirement of submitting patent copies for applications filed after June 30, 2003, however Items AL through BS are provided herewith.

It is respectfully requested that the Examiner indicate consideration of the cited references by returning a copy of the attached form PTO-1449 with initials or other appropriate marks.

This Information Disclosure Statement under 37 C.F.R. § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

Accordingly, no fee is believed to be due. The Commissioner is hereby authorized to charge any fees, or to credit any overpayment to Deposit Account No. 03-40687

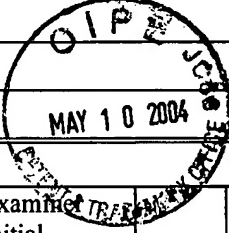
Respectfully submitted,



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May 6, 2004
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U.S. Department of Commerce, Patent and Trademark Office					Atty Docket No.		Serial No.	
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(Use several sheets if necessary)					William N. Partlo, et al.			
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U.S. Patent Documents							
*Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate	
	A	2,759,106	8/14/56	Hans Wolter	250	53	
	B	3,150,483	5/10/62	Mayfield, et al.	50	35.5	
	C	3,232,046	2/1/66	Rudolf Meyer	50	35.5	
	D	3,279,176	10/18/66	Robert H. Boden	60	202	
	E	3,746,870	7/17/73	Donald M. Demarest	250	227	
	F	3,960,473	6/1/76	Thomas Harris	425	467	
	G	3,961,197	6/1/76	John M. Dawson	250	493	
	H	3,969,628	7/13/76	Roberts, et al.	250	402	
	I	4,042,848	8/16/77	Ja Hyun Lee	313	231.6	
	J	4,088,966	5/9/78	Michael A. Samis	313	231.5	
	K	4,143,275	3/6/79	Mallozzi, et al.	250	503	
	L	4,162,160	7/24/79	Gerald J. Witter	75	246	
	M	4,203,393	5/20/80	Dante S. Giardini	123	30	
-----	N	4,504,964	3/12/85	Cartz, et al.	378	119	
	O	4,536,884	8/20/85	Weiss, et al.	378	119	
	P	4,538,291	8/27/85	Seiichi Iwamatsu	378	119	
	Q	4,596,030	6/17/86	Herziger, et al.	378	119	
	R	4,618,971	10/21/86	Weiss, et al.	378	34	
	S	4,626,193	12/2/86	Ronald A. Gann	431	71	
	T	4,633,492	12/30/86	Weiss, et al.	378	119	
	U	4,635,282	1/6/87	Okada, et al.	378	34	

Foreign Patent Documents							Translation	
Document	Date	Country	Class	Subclass	Yes	No		

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)	

Examiner	Date Considered
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***EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

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	V	4,751,723	6/14/88	Gupta, et al.	378	119		
	W	4,752,946	6/21/88	Gupta, et al.	378	119		
	X	4,837,794	6/6/89	Riordan, et al.	378	119		
	Y	5,023,897	6/11/91	Neff, et al.	378	122		
	Z	5,027,076	6/25/91	Horsley, et al.	324	674		
	AA	5,102,776	4/7/92	Hammer et al.	430	311		
	BB	5,126,638	6/30/92	Rolf Dethlefsen	315	326		
	CC	5,142,166	8/25/92	Daniel L. Birx	307	419		
	CC	5,313,481	5/17/94	Cook et al.	372	37		
	DD	5,319,695	6/7/94	Itoh, et al.	378	84		
	EE	5,411,224	5/2/95	Dearman, et al.	244	53		
	FF	5,448,580	9/5/95	Birx et al.	372	38		
	GG	5,504,795	4/2/96	Malcolm McGeoch	378	119		
	HH	5,729,562	3/17/98	Birx et al.	372	38		
	II	5,763,930	6/9/98	William N. Partlo	250	504		
	JJ	5,866,871	2/2/99	Daniel L. Birx	219	121		
	KK	5,936,988	8/10/99	Partlo et al.	372	38		
	LL	5,963,616	10/5/99	Silfvast, et al.	378	122		
	MM	6,031,241	2/29/00	Silfvast, et al.	250	504		
	NN	6,039,850	3/21/00	Stephen C. Schulz	204	192.15		
	OO	6,172,324	1/9/01	Daniel L. Birx	219	121.57		
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	PP	6,051,841	4/18/00	William N. Partlo	250	504		
	QQ	6,064,072	5/16/00	Partlo, et al.	250	504		
	RR	6,195,272	2/27/01	Joseph E. Pascente	363	21		
	SS	6,285,743	9/4/01	Kondo, et al.	378	119		
	TT	6,307,913	10/23/01	Foster, et al.	378	34		
	UU	6,377,651	4/23/02	Richardson, et al.	378	34		
	VV	6,396,900	5/28/02	Barbee, Jr., et al.	378	84		
	WW	6,452,199	9/7/02	Partlo, et al.	250	504		
	XX	6,493,323	12/10/02	Theodorus Bisschops	378	119		
	YY	6,566,667	5/20/03	Partlo, et al.	250	504		
	ZZ	6,566,668	5/20/03	Rauch, et al.	250	504		
	AA	6,576,912	6/10/03	Visser, et al.	250	492.2		
	AB	6,586,757	7/1/03	Melnychuk, et al.	250	504		
	AC	2001/0055364	12/27/01	Kandaka, et al.	378	119		
	AD	2002/0009176	1/24/02	Ameniya, et al.	378	34		
	AE	2002/0100882	8/1/02	Partlo, et al.	250	504		
	AF	2002/0141536	10/3/02	Martin Richardson	378	119		
	AG	2002/0163313	1/9/03	Ness, et al.	315	111.01		
	AH	2002/0168049	11/14/02	Schriever, et al.	378	119		
	AI	2003/0006383	1/9/03	Melnychuk, et al.	250	504		
	AJ	2003/0068012	4/10/03	Ahmad, et al	378	119		
	AK	2003/0219056	11/27/03	Yager, et al.	372	57		
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OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)									
	AL	Apruzese, J.P., "X-Ray Laser Research Using Z Pinches," <u>Am. Inst. of Phys.</u> 399-403, (1994).							
	AM	Bollanti, et al., "Compact Three Electrodes Excimer Laser IANUS for a POPA Optical System," <u>SPIE Proc.</u> (2206)144-153. (1994).							
	AN	Bollanti, et al., "Ianus, the three-electrode excimer laser," <u>App. Phys. B (Lasers & Optics)</u> 66(4):401-406, (1998).							
	AO	Braun, et al., "Multi-component EUV Multilayer Mirrors," <u>Proc. SPIE</u> , 5037:2-13, (2003).							
	AP	Choi, et al., "A 10 ¹³ A/s High Energy Density Micro Discharge Radiation Source," <u>B. Radiation Characteristics</u> , p. 287-290.							
	AQ	Choi, et al., "Fast pulsed hollow cathode capillary discharge device," <u>Rev. of Sci. Instrum.</u> 69(9):3118-3122 (1998).							
	AR	Feigl, et al., "Heat Resistance of EUV Multilayer Mirrors for Long-time Applications," <u>Microelectric Engineering</u> , 57-58:3-8, (2001).							
	AS	Fomenkov, et al., "Characterization of a 13.5nm Source for EUV Lithography based on a Dense Plasma Focus and Lithium Emission," <u>Sematech Intl. Workshop on EUV Lithography</u> (Oct. 1999).							
	AT	Hansson, et al., "Xenon liquid jet laser-plasma source for EUV lithography," <u>Emerging Lithographic Technologies IV, Proc. Of SPIE</u> , Vol. 3997:729-732 (2000).							
	AU	Kato, Yasuo, "Electrode Lifetimes in a Plasma Focus Soft X-Ray Source," <u>J. Appl. Phys.</u> (33) Pt. 1, No. 8:4742-4744 (1991).							
	AV	Kato, et al., "Plasma focus x-ray source for lithography," <u>Am. Vac. Sci. Tech. B.</u> , 6(1): 195-198 (1988).							
	AW	Lebert, et al., "Soft x-ray emission of laser-produced plasmas using a low-debris cryogenic nitrogen target," <u>J. App. Phys.</u> , 84(6):3419-3421 (1998).							
	AX	Lebert, et al., "A gas discharge based radiation source for EUV-lithography," <u>Intl. Conf. Micro and Nano-Engineering 98</u> (Sept. 22-24, 1998) Leuven, Belgium.							
	AY	Lebert, et al., "Investigation of pinch plasmas with plasma parameters promising ASE," <u>Inst. Phys. Conf. Ser No. 125: Section 9</u> , pp. 411-415 (1992) Schiersee, Germany.							
	AZ	Lebert, et al., "Comparison of laser produced and gas discharge based EUV sources for different applications," <u>Intl. Conf. Micro- and Nano-Engineering 98</u> (Sept. 22-24, 1998) Leuven, Belgium.							
	BA	Lee, Ja H., "Production of dense plasmas in hypocylindrical pinch apparatus," <u>The Phys. Of Fluids</u> , 20(2):313-321 (1977).							
	BB	Lewis, Ciaran L.S., "Status of Collision-Pumped X-ray Lasers," <u>Am Inst. Phys.</u> Pp. 9-16 (1994).							
	BC	Malmqvist, et al., "Liquid-jet target for laser-plasma soft x-ray generation," <u>Am. Inst. Phys.</u> 67(12):4150-4153 (1996).							
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OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)									
	BD	Mather, et al., "Stability of the Dense Plasma Focus," <u>Phys. Of Fluids</u> , 12(11):2343-2347 (1969).							
	BE	Mayo, et al., "A magnetized coaxial source facility for the generation of energetic plasma flows," <u>Sci. Technol.</u> Vol. 4:pp.47-55 (1994).							
	BF	Mayo, et al., "Initial Results on high enthalpy plasma generation in a magnetized coaxial source," <u>Fusion Tech</u> Vol. 26:1221-1225 (1994).							
	BG	Nilsen, et al., "Analysis of resonantly photopumped Na-Ne x-ray-laser scheme," <u>Am Phys. Soc.</u> 44(7):4591-4597 (1991).							
	BH	Partlo, et al., "EUV (13.5nm) Light Generation Using a Dense Plasma Focus Device," <u>SPIE Proc. On Emerging Lithographic Technologies III</u> , Vol. 3676, 846-858 (March 1999).							
	BI	Porter, et al., "Demonstration of Population Inversion by Resonant Photopumping in a Neon Gas Cell Irradiated by a Sodium Z Pinch," <u>Phys. Rev. Lett.</u> 68(6):796-799. (Feb. 1992).							
	BJ	Price, Robert H., "X-Ray Microscopy using Grazing Incidence Reflection Optics," <u>Am. Inst. Phys.</u> , pp. 189-199, (1981).							
	BK	Qi, et al., "Fluorescence in Mg IX emission at 48.340 Å from Mg pinch plasmas photopumped by Al XI line radiation at 48.338 Å," <u>The Am. Phys. Soc.</u> 47(3):2253-2263 (March 1993).							
	BL	Scheuer, et al., "A Magnetically-Nozzled, Quasi-Steady, Multimegawatt, Coaxial Plasma Thruster," <u>IEEE: Transactions on Plasma Science</u> , 22(6) (Dec. 1994).							
	BM	Schriever, et al., "Laser-produced lithium plasma as a narrow-band extended ultraviolet radiation source for photoelectron spectroscopy," <u>App. Optics</u> , 37(7):1243-1248, (Mar. 1998).							
	BN	Schriever, et al., "Narrowband laser produced extreme ultraviolet sources adapted to silicon/molybdenum multilayer optics," <u>J. of App. Phys.</u> , 83(9):4566-4571, (May 1998).							
	BO	Silfvast, et al., "High-power plasma discharge source at 13.5 nm and 11.4 nm for EUV lithography," <u>SPIE</u> , Vol. 3676:272-275, (Mar. 1999).							
	BP	Silfvast, et al., "Lithium hydride capillary discharge creates x-ray plasma at 13.5 nanometers," <u>Laser Focus World</u> , p. 13, (Mar. 1997).							
	BQ	Wilhein, et al., "A slit grating spectrograph for quantitative soft x-ray spectroscopy," <u>Am. Inst. Of Phys. Rev. of Sci. Instrum.</u> 70(3):1604-1609 (Mar. 1999).							
	BR	Wu, et al., "The vacuum Spark and Spherical Pinch X-ray/EUV Point Sources," <u>SPIE, Conf. On Emerging Tech. III</u> , Santa Clara, CA. Vol. 3676:410-420, (Mar. 1999).							
	BS	Zombeck, M.V., "Astrophysical Observations with High Resolution X-ray Telescope," <u>Am. Inst. Of Phys.</u> , pp. 200-209 (1981).							
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